



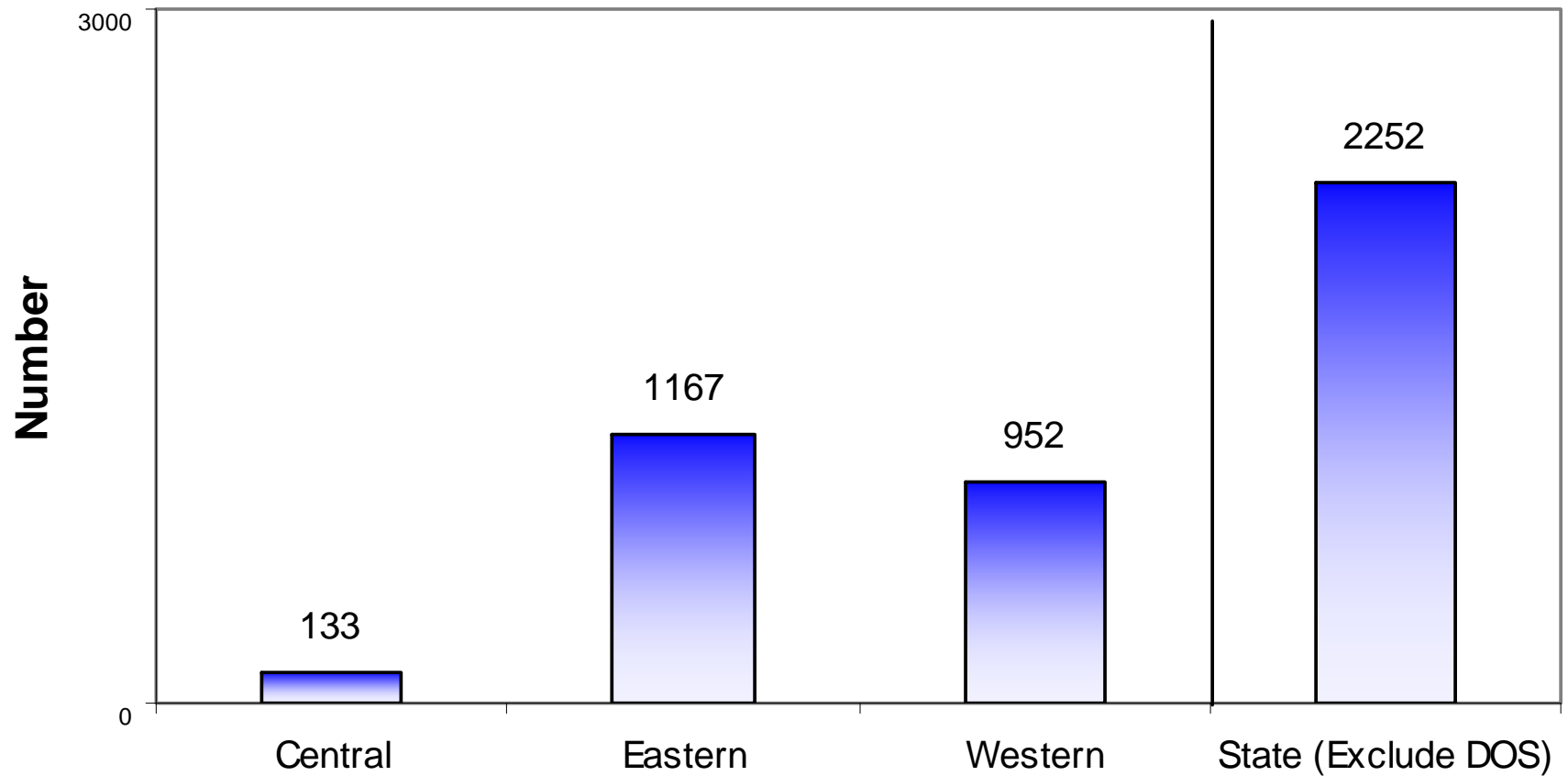
State Trauma Care Committee Report

January 1 – December 31, 2007

N = 2252

MT STCC 1st thru 4th Qtrs 2007

Total Patients



N = 2252

MT STCC 1st thru 4th Qtrs 2007



Central Region Facilities

White Sulphur Springs - Mountainview Med. Ctr. MAF	7
Havre - Northern Montana Hospital	16
Townsend	2
Choteau - Teton Medical Center MAF	10
Conrad - Pondera Medical Center	39
Chester - Liberty County Hospital	3
Helena - St. Peter's Hospital	56
	133

Eastern Region Facilities

Livingston Memorial Hospital	33
Roundup Memorial Hospital	9
Culbertson - Roosevelt Memorial Hospital	9
Harlowton - Wheatland Memorial Hospital	20
Red Lodge - Beartooth Hospital & Health Center	20
Plentywood - Sheridan Memorial Hospital	2
Sidney Health Center	14
Wolf Point - Northeast Montana Health Services	15
Poplar - Northeast Montana Health Services	18
Glasgow - Frances Mahon Deaconess Hospital	9
Big Timber - Sweet Grass Community Hospital	14
Bozeman Deaconess Hospital	155
Billings - Deaconess - Billings Clinic	383
Billings - Saint Vincent Hospital & Health Center	455
Colstrip Medical Clinic	11
	1167

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MT STCC 1st thru 4th Qtrs 2007

Western Region Facilities

Plains - Clark Fork Valley Hospital	7
Polson - St. Joseph Hospital	13
Anaconda - Community Hospital of Anaconda	40
Hamilton - Marcus Daly Memorial Hospital	17
Dillon - Barrett Hospital	20
Superior - Mineral County Hospital	47
Ronan - St. Luke Community Hospital	40
Whitefish - North Valley Hospital	10
Kalispell Regional Hospital	198
Missoula - Community Medical Center	67
Butte - St. James Community Hospital	122
Missoula - St. Patrick Hospital	362
	943

Data Missing

- Central: Benefis

St. Peter's Hospital/4th only

- Western- Kalispell Regional/partial
CMC/partial



Additional Registry Facilities

- Beartooth Hospital, Red Lodge
- Big Sandy Medical Center
- Daniels Memorial, Scobey
- Roosevelt Medical Center, Culbertson
- Broadwater Health Center, Townsend
- Granite County, Phillipsburg
- Big Horn Memorial, Hardin
- McCone County, Circle
- Missouri River, Fort Benton
- Central Montana Medical, Lewistown
- Ruby Valley, Sheridan



Additional Registry Facilities

- Powell County, Deer Lodge
- Prairie Community, Terry
- Madison Valley, Ennis
- Fallon Medical Center, Baker
- Powder River, Broadus
- Dahl Memorial, Ekalaka
- Northern Rockies, Cutbank
- Rosebud Health Center, Forsyth
- Holy Rosary, Miles City
- Phillips County, Malta

Patient YTD Demographics

N = 2252

81% ages 10-64 5% < 10 15% ≥ 65

82% White 11% Native 9% Other & ND

67% Male 33% Female



2007 Patient YTD Demographics

94% Blunt 5% Penetrating

42% MVC 18% Falls

11% MC 5% Horse

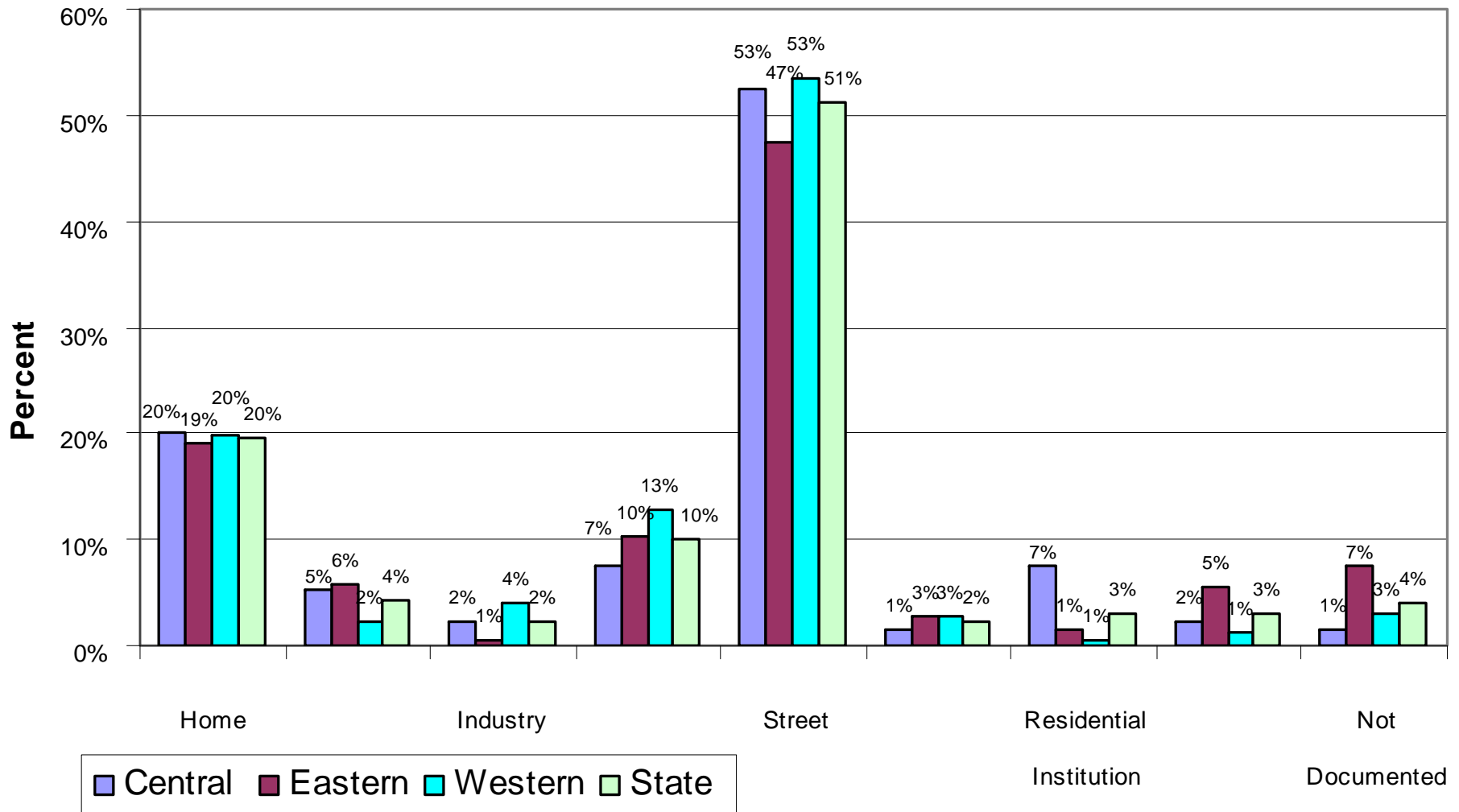
3% Assault 2% Pedestrian

3 % Bicycle

51% Street/Highway 20% Home

10% Recreation

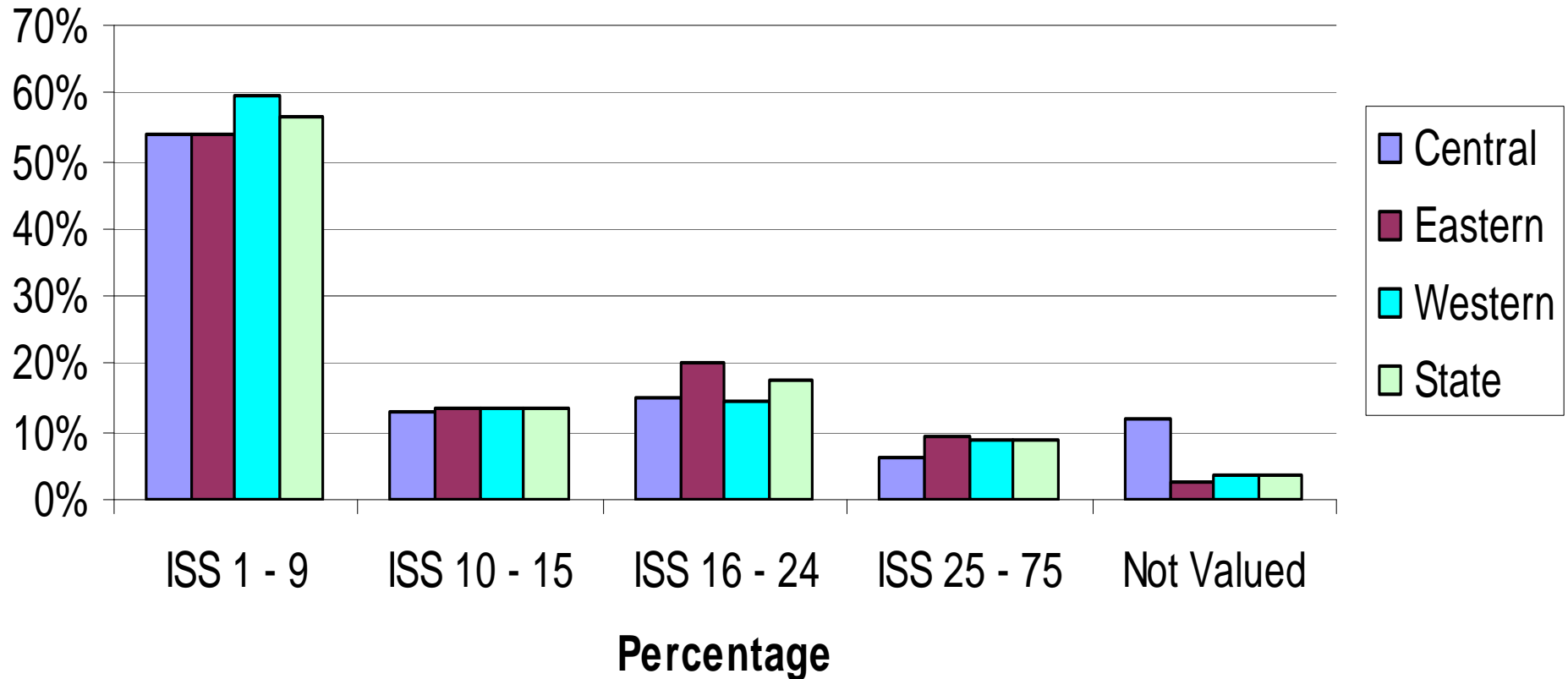
Location by Region Comparison



N = 2252

MT STCC 1st thru 4th Qtrs 2007

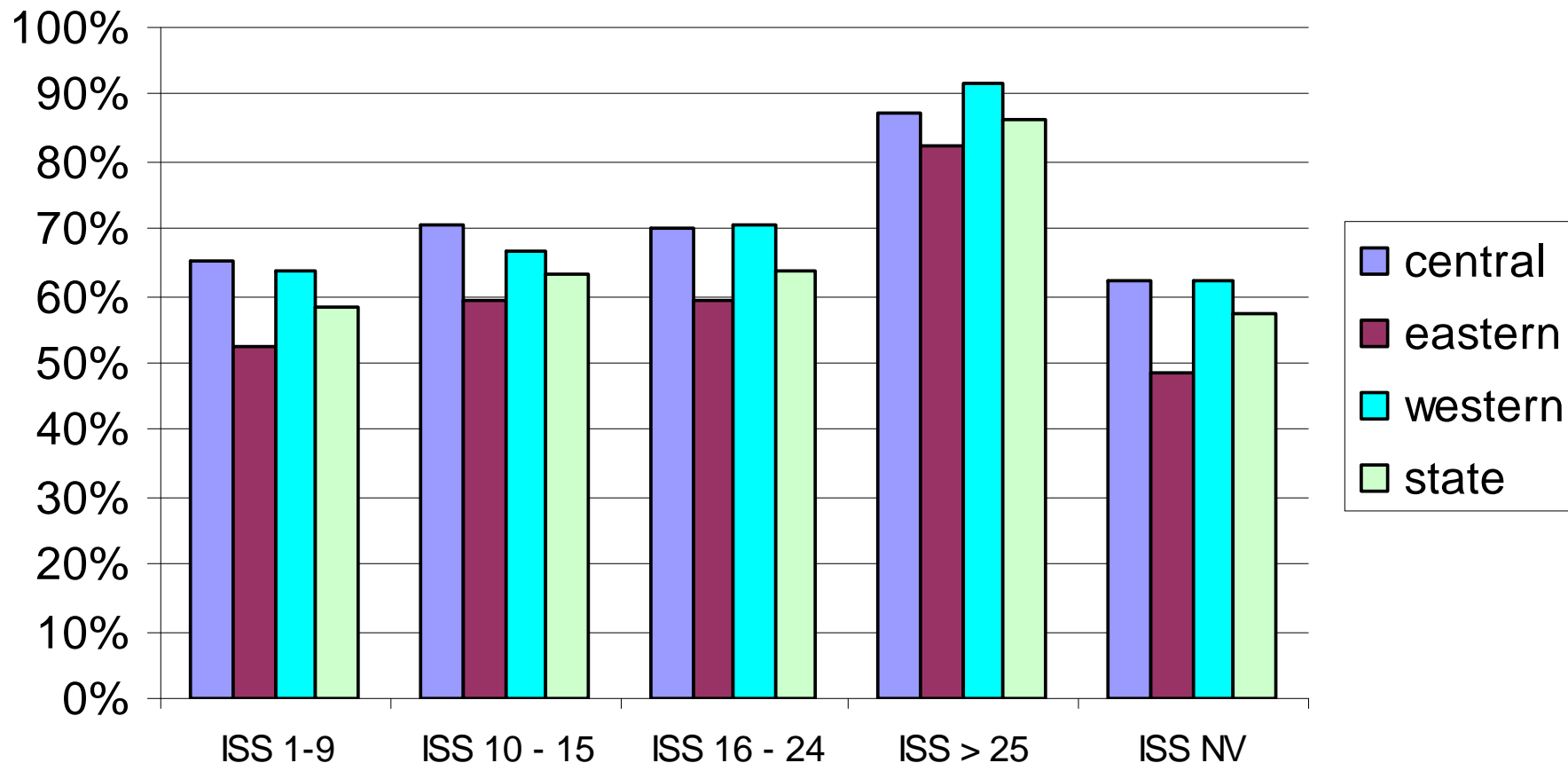
Regional Patients by ISS



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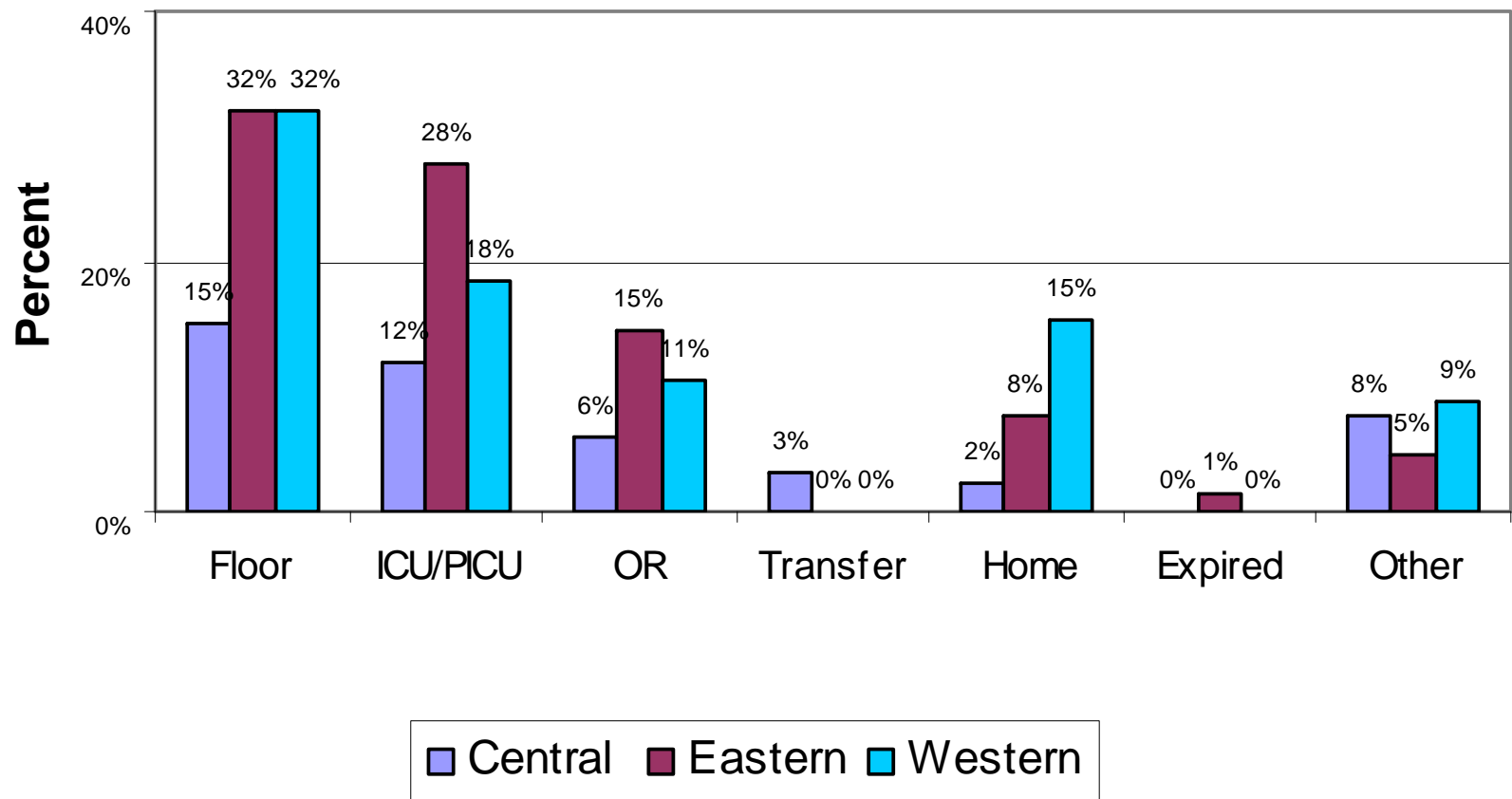
Trauma Team Activation (Full or Partial) by ISS



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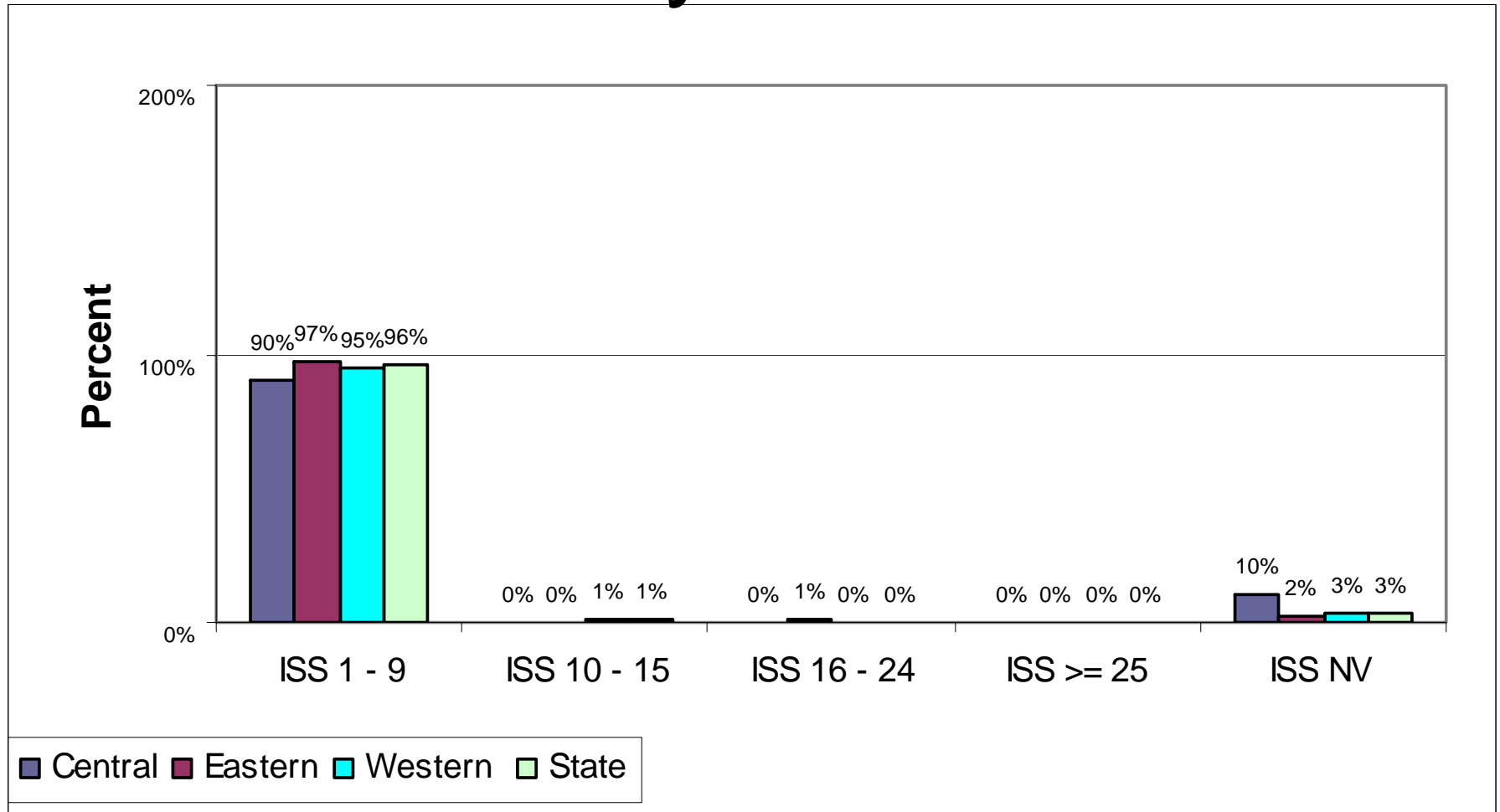
ED Disposition



N = 2252

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ED to Home by ISS

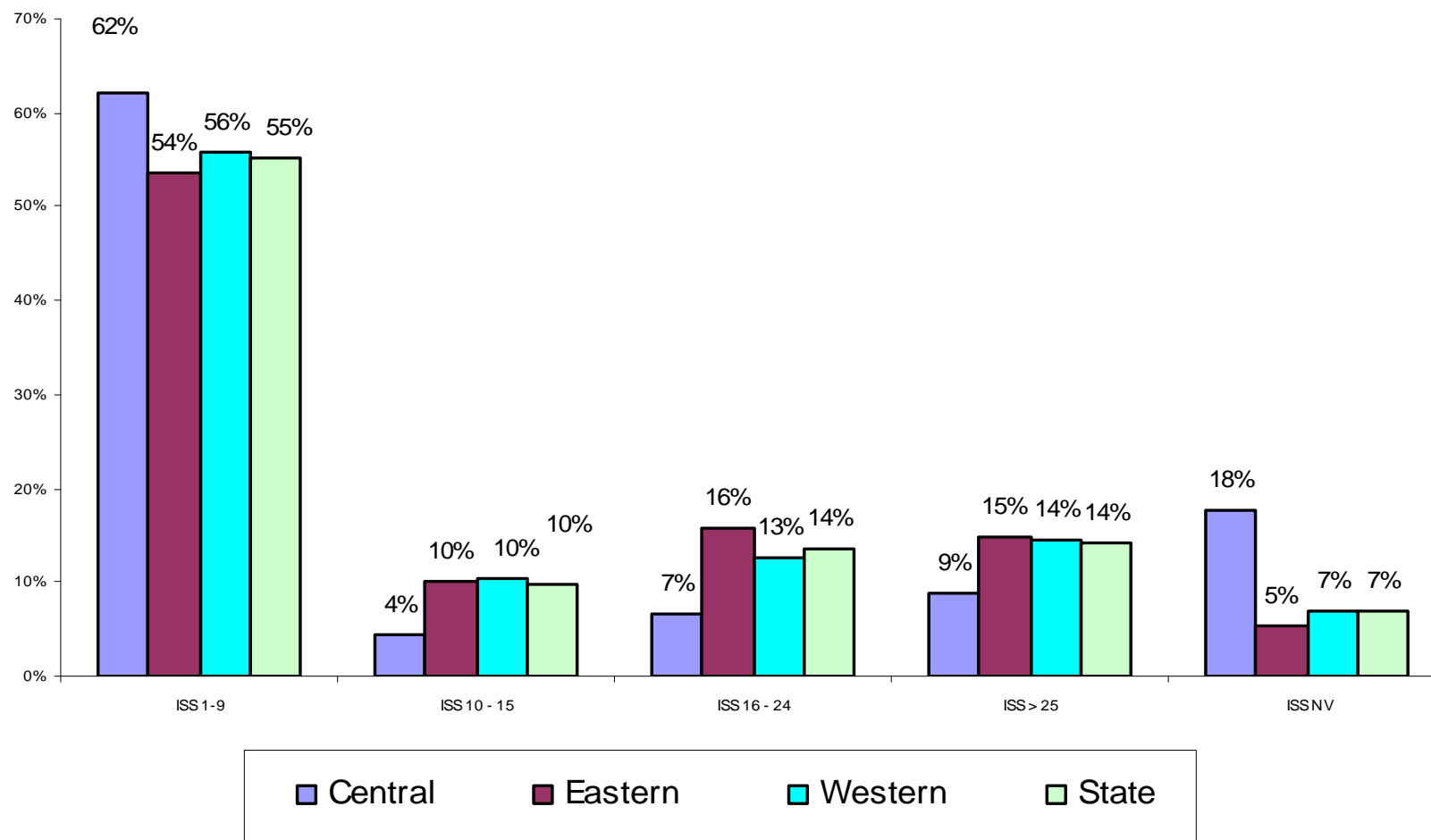


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STATE

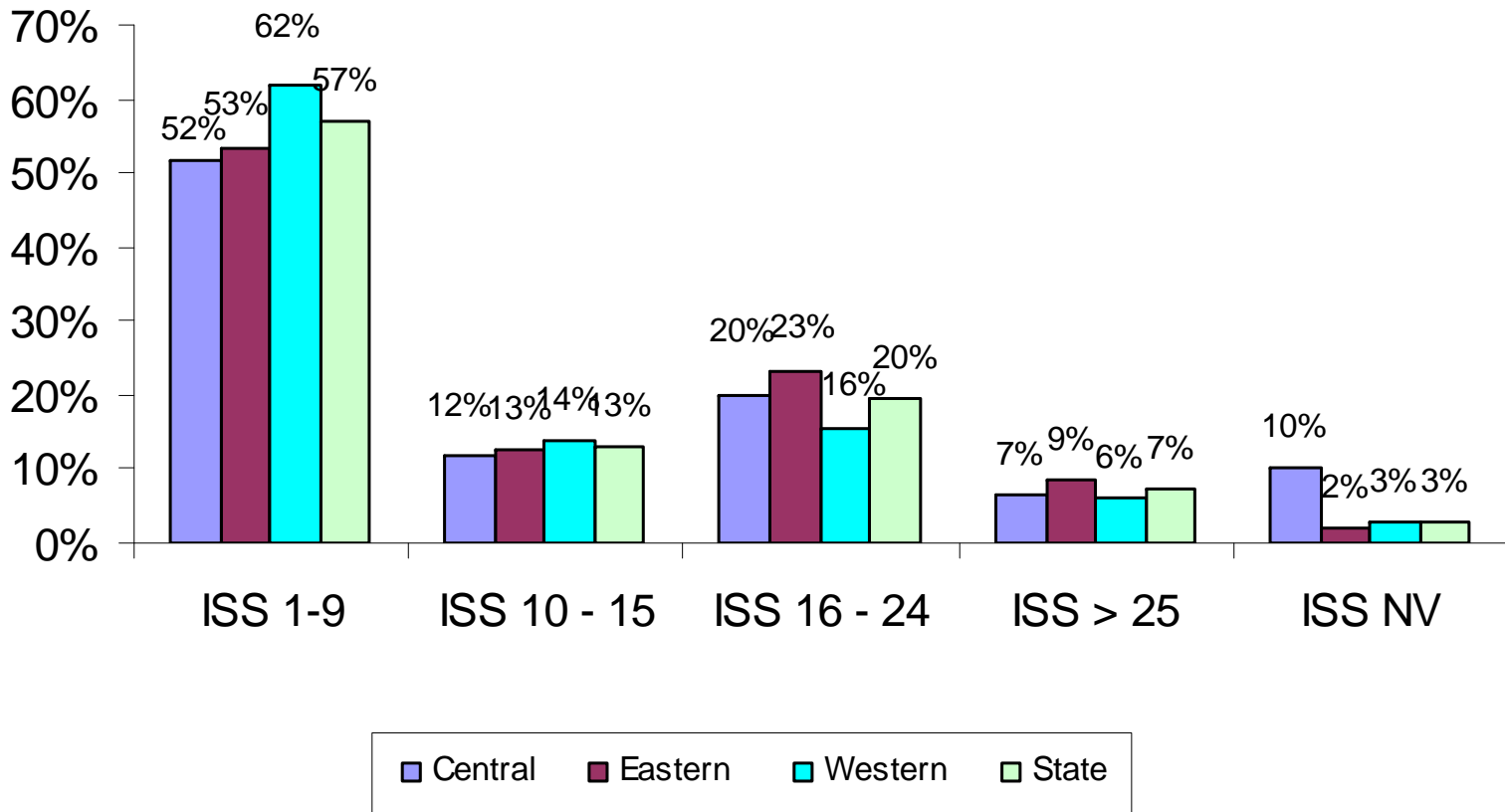
ED LOS: Less than 120 Minutes



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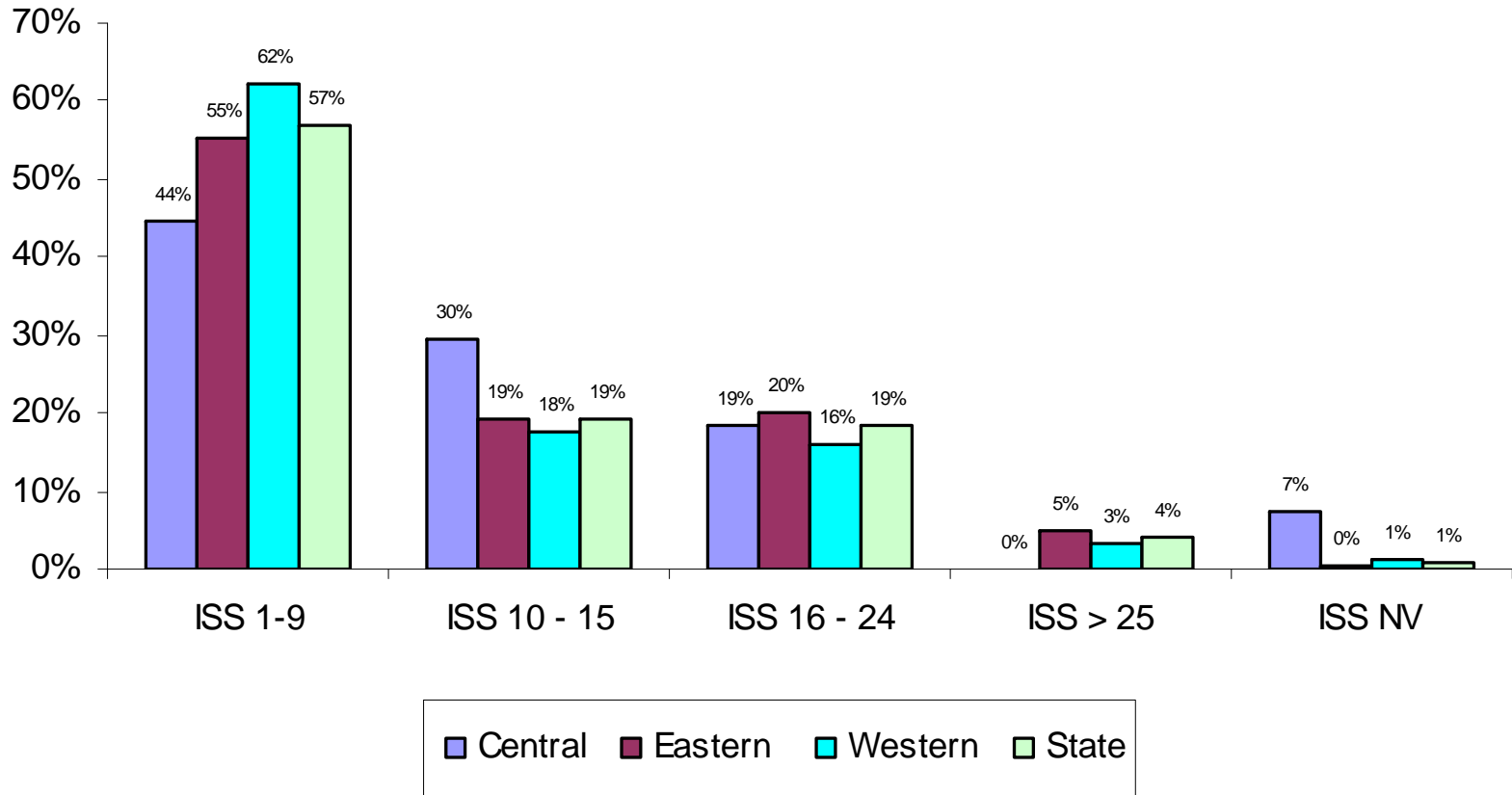
STATE
ED LOS: 120 - 239 Minutes



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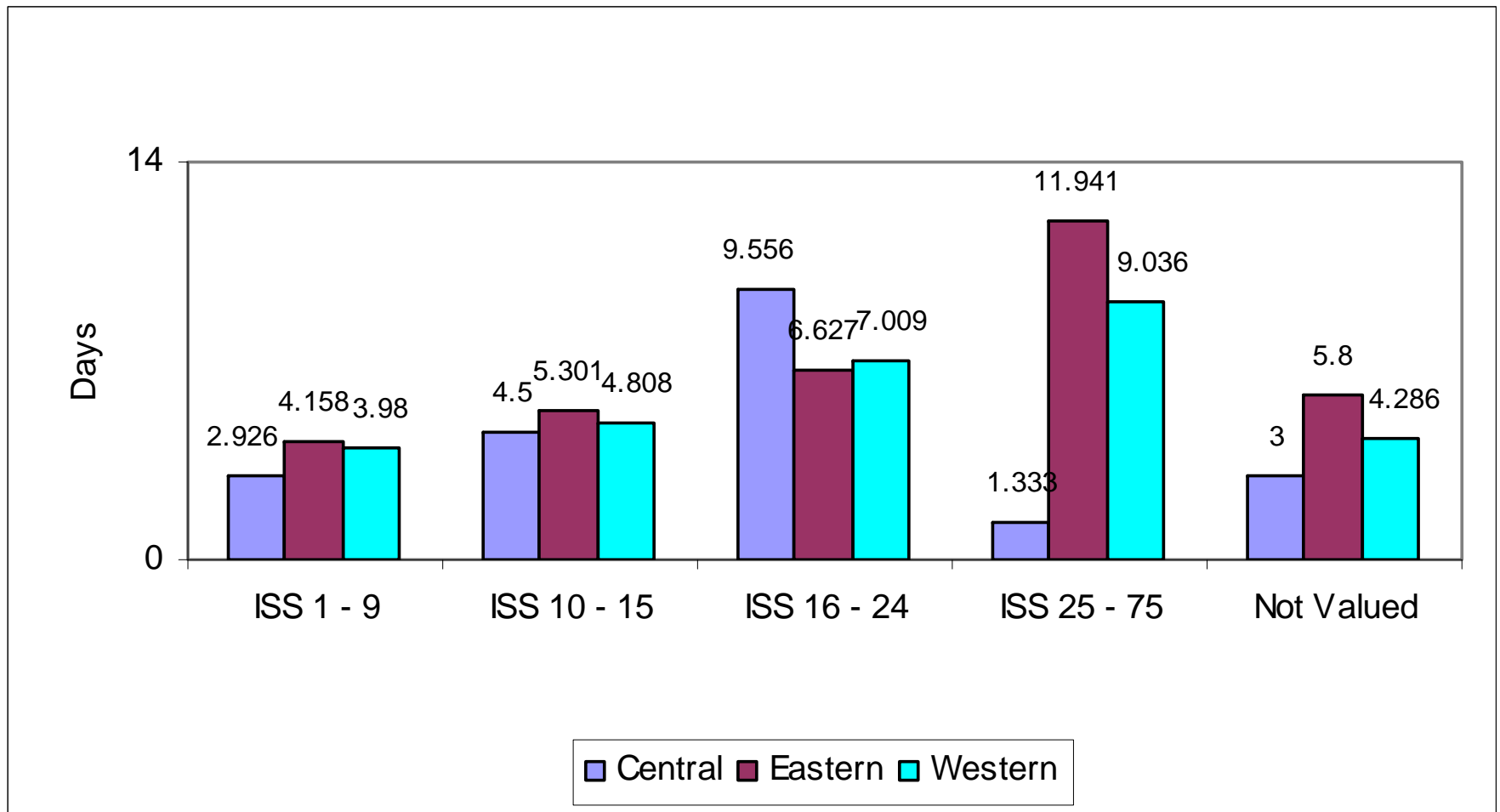
STATE ED LOS: >239 Minutes



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MT STCC 1st thru 4th Qtrs 2007

Avg. Hospital LOS by Region

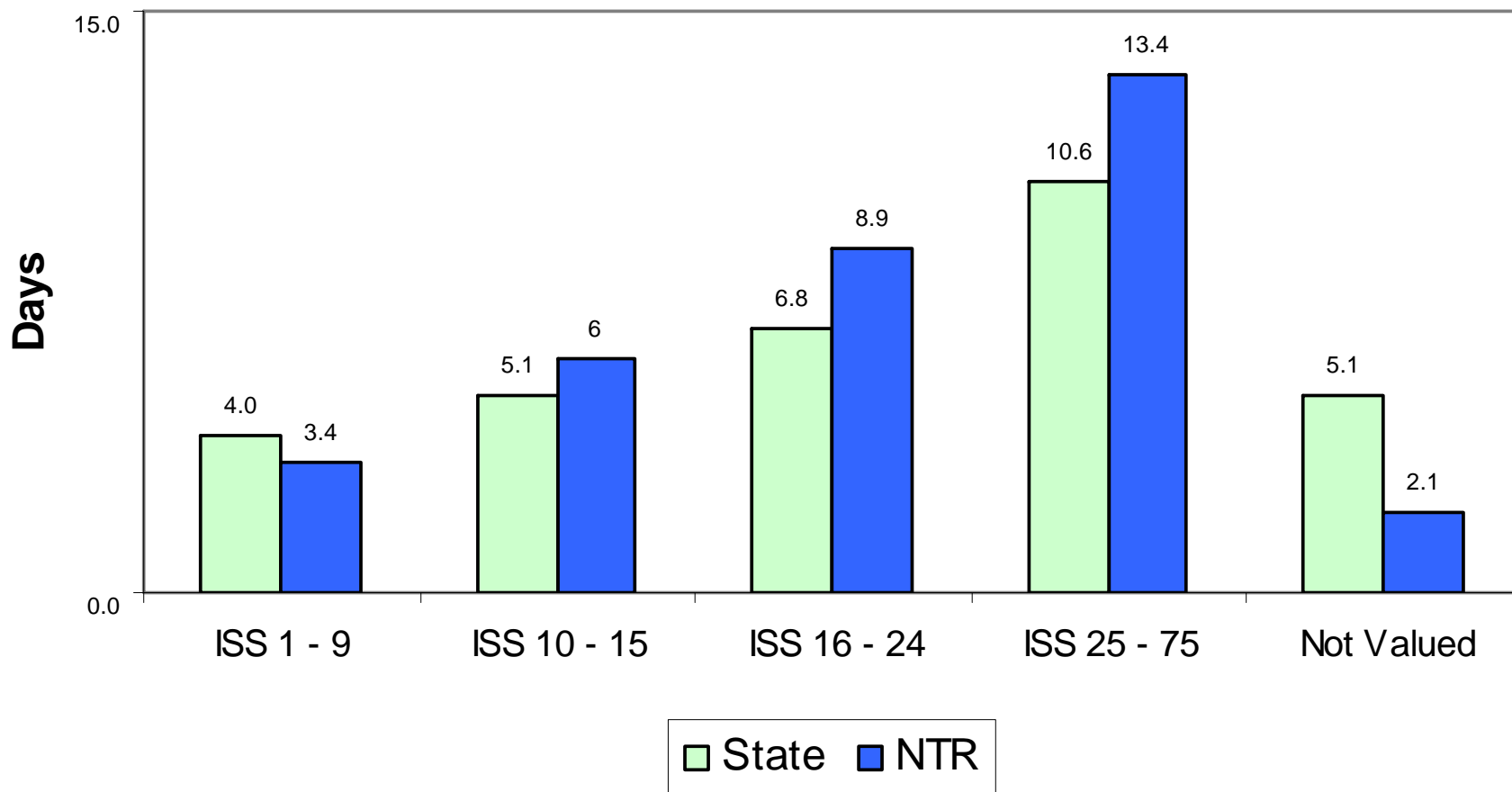


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Avg. Hospital LOS

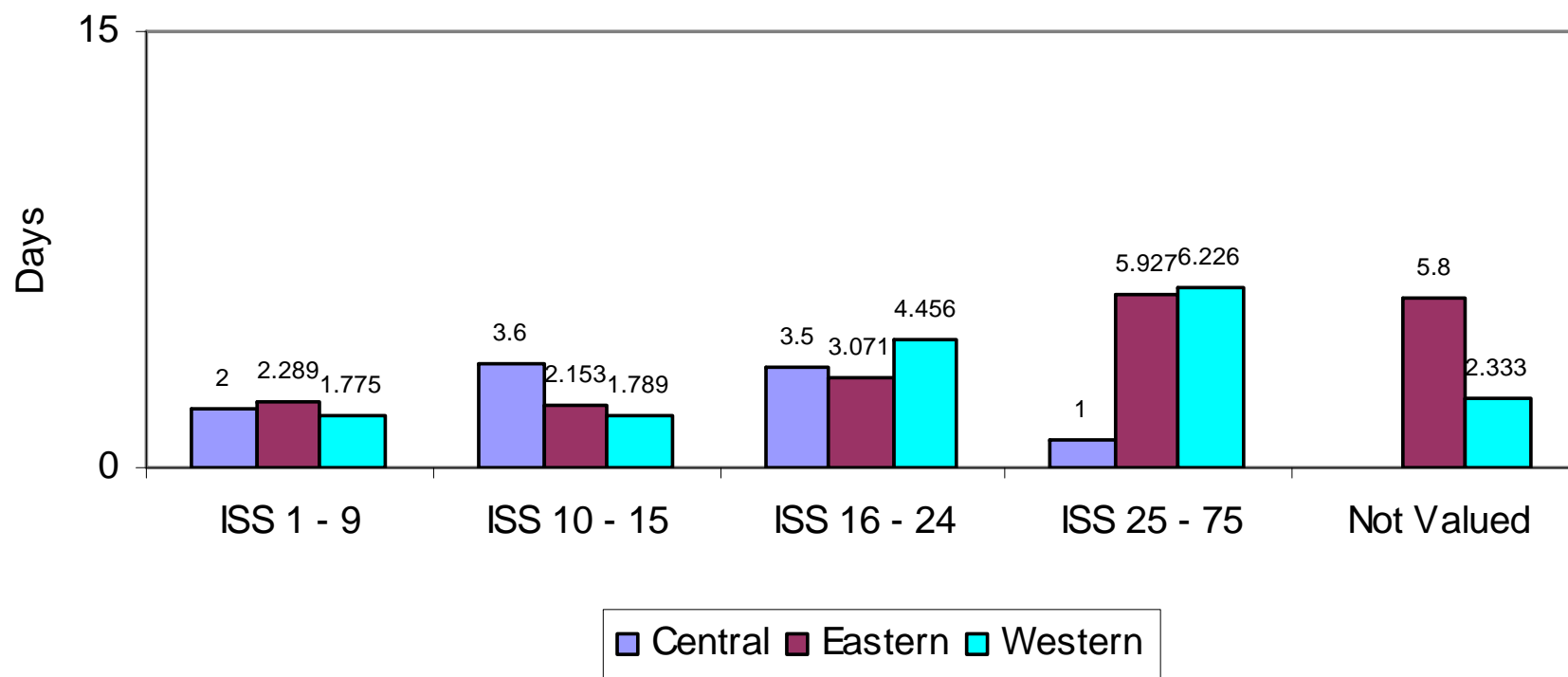
(comparing State and National Trauma Registry)



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MT STCC 1st thru 4th Qtrs 2007

Avg. ICU LOS by Region

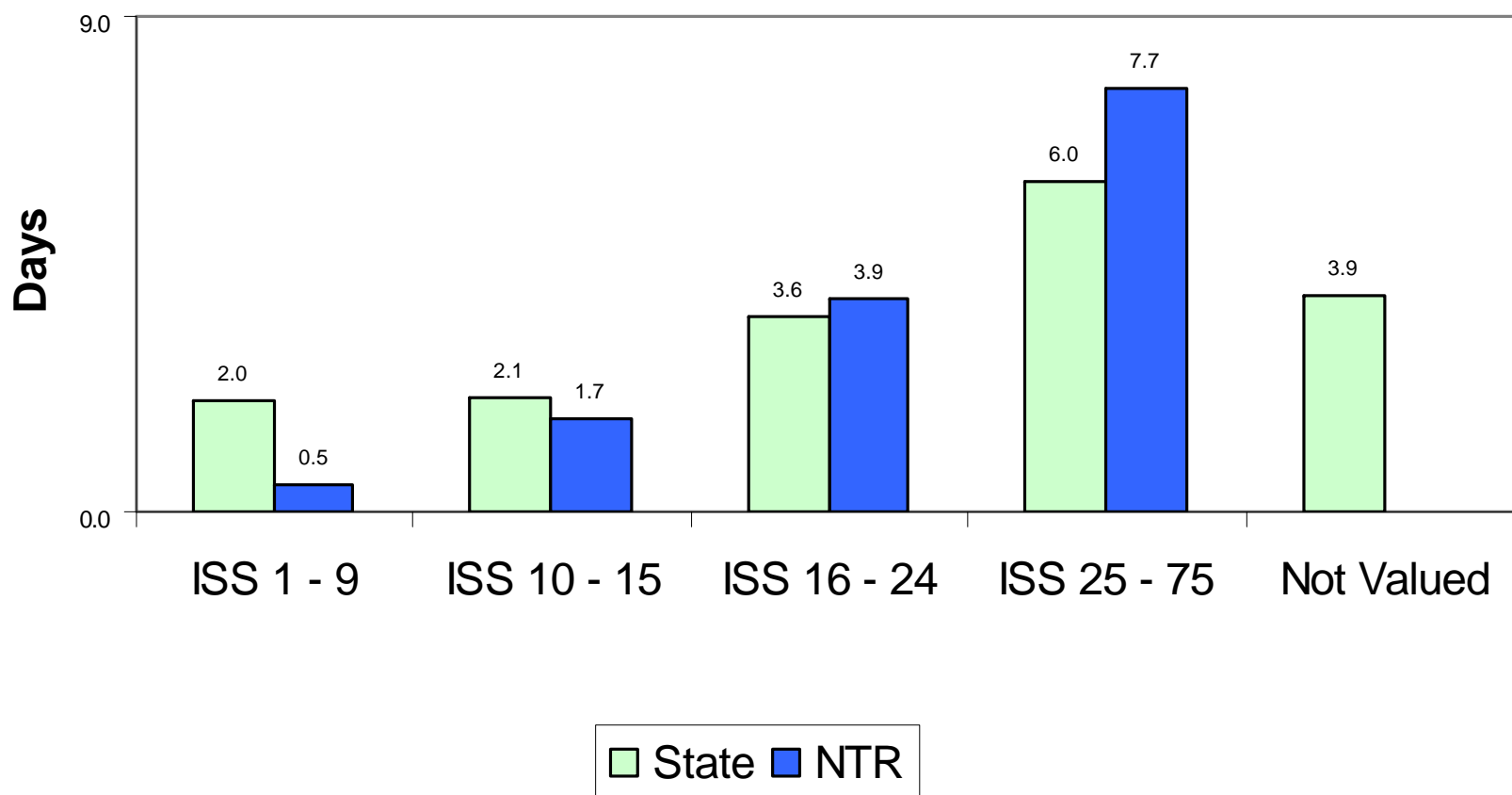


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Avg. ICU LOS

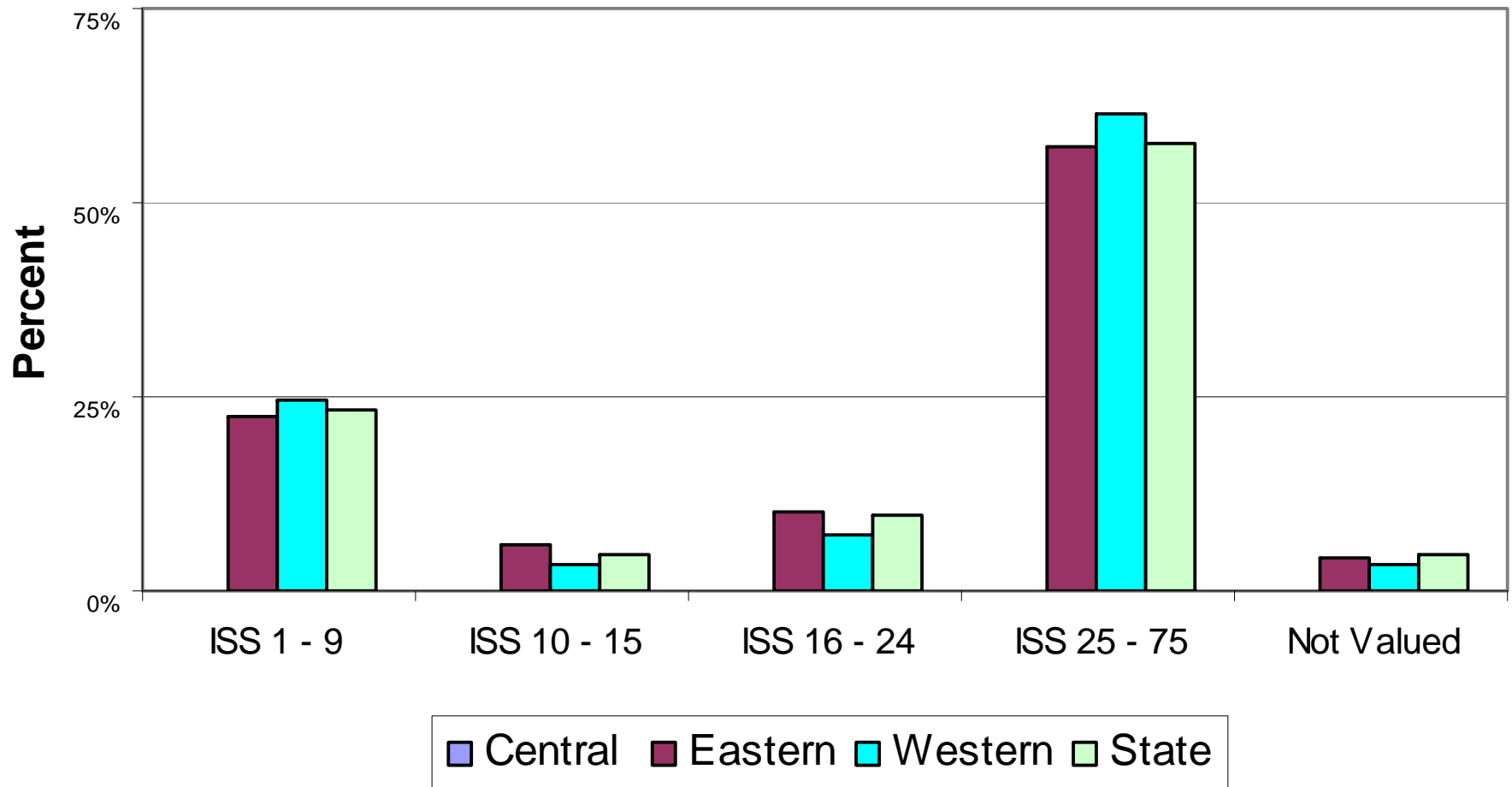
(comparing State and National Trauma Registry)



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Fatalities by ISS



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Fatalities (no DOS)

Injury Causes Of Fatalities

N = 53 YTD

MVC – 21 (40%) (Anoxia/Car into pond) - 2

Falls – 10 (19%)

MC - 7 (13%)

SI GSW - 5

Pedestrian - 3

Assault/Stabbing - 3

Bicycle vs vehicle - 3

SI Hanging - 1

Fatalities

MVC : 21

+ SB

5

- SB

14

UNK

2

MC : 7

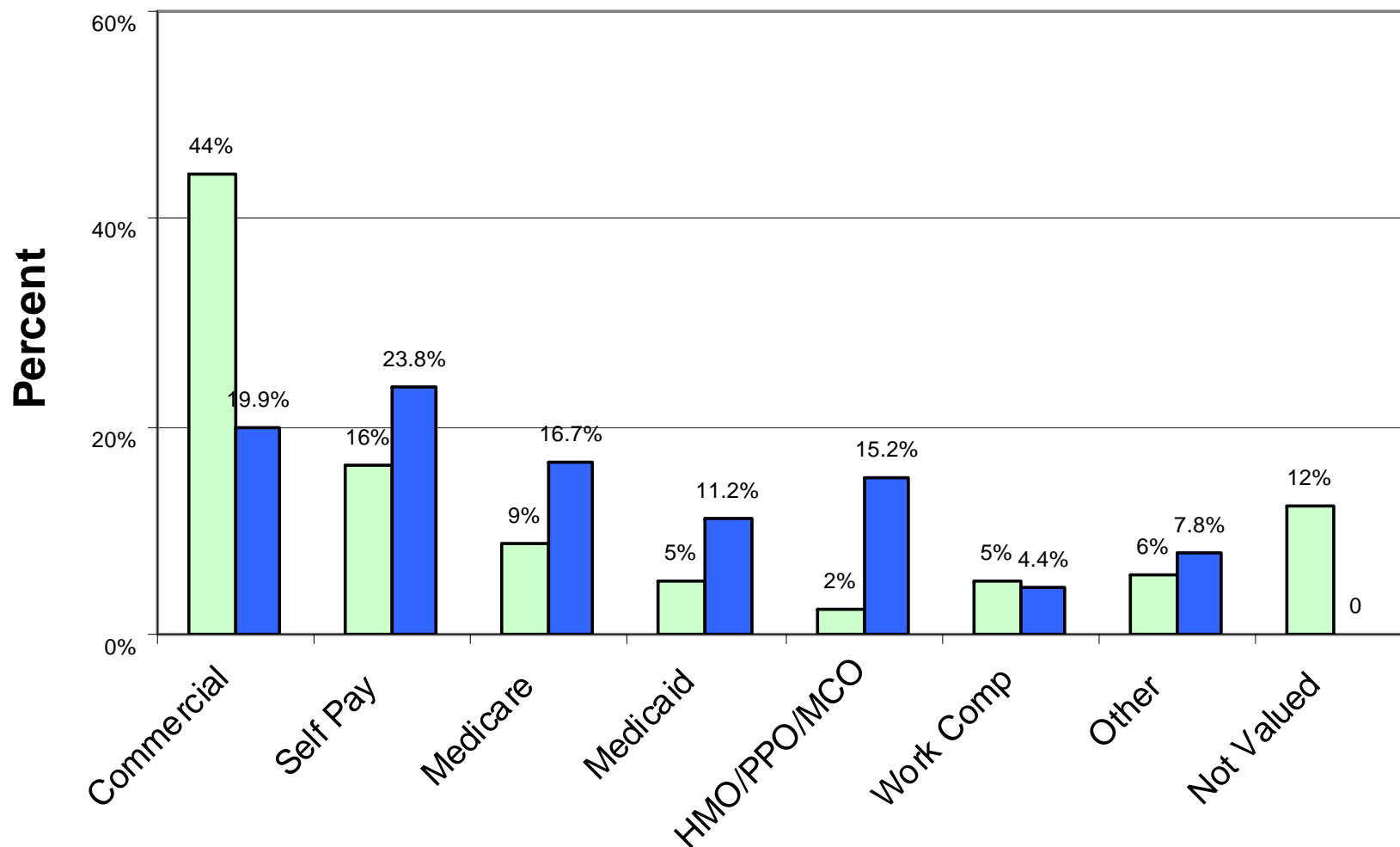
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- H

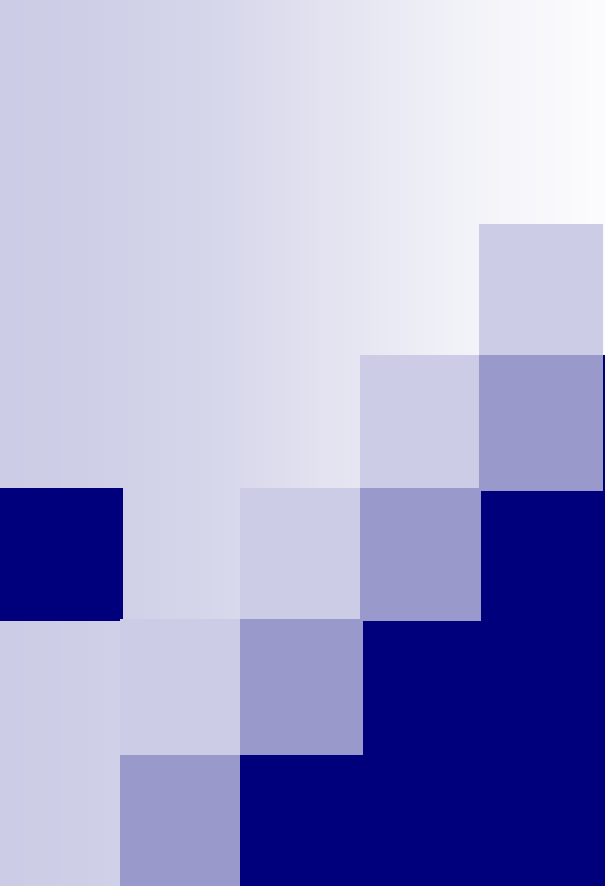
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Payors



State NTDB

MT STCC 1st thru 4th Qtrs 2007



Performance Indicators

1st – 3rd Quarters 2007

January 1 – June 30, 2007



PI # 1: Trauma Patients Transported per EMS Without Trip Report in the Medical Record

**Prehospital Transport: YTD 1612 (72%)
(06: 70%)**

**Report available: YTD 1186 (74%),
(06: 73%)**

**No Report: YTD 404 (25%), (06:25%)
ND: 22 (1%)**



PI # 1 cont'd

Ambulance Transports YTD

Central: 100 (75%)

+ Report: 93 (93%), No Report 5

Eastern: 766 (66%)

+ Report: 576 (75%), No Report: 184 (24%),

Western: 746 (78%)

+ Report: 517 (69%), No Report 215 (29%),

PI # 1

- No readily identifiable trends with services transporting larger numbers of patients
- MANY smaller services transporting few patients with & without reports add up!
- Strategy: focus regional/local efforts on addressing lack of trip reports with smaller services; provide individual facility/system feedback w/paper abstract
- Incorporate EMS trip report tracking w/PIN network PI activity

PI # 2: Transferred Trauma Patients w/ISS ≥ 15 & time at first facility ≥ 6 hrs

7 YTD transfers w/ISS ≥ 15 & time @ facility ≥ 6 hrs

Avg. hours = 29.38 hrs

4 transferred from ED; Avg time; 8.9 hr

3 admitted prior to transfer;

Avg time; 56.72 hr

ALL seven w/ISS 16-17, ALL GCS = 15

**PI #3: Trauma patients with
ISS \geq 15 and ED time \geq 2 hours**

YTD 397 patients (18%)

**□ YTD Average ED time: 221 min
(3.68hr)**

□ YTD Average ISS: 21

**ED Disposition for patient w/ED time
 ≥ 2 hrs & ISS ≥ 15**

YTD

N = 397 (18%)

ED Disposition

Avg. ED time

ICU 47%

3.6 hr

OR 10%

3.8 hr

Floor 16%

3.7 hr

Step down 3%

4.4 hr

Peds < 1%

3.7 hr

Transferred to

Acute Care 20%

3.7 hr

PI # 4:

**Trauma patients who died
with an ISS ≤ 15**

N= 31 YTD

4th quarter= 4

Most died in ED (3/4)

**Most “undercoded” due to lack of
complete Dx of injuries in ED**

&/OR relatively minor visible injuries

ISS 9; GSW head: SAH died ED

ISS 1; hanging/anoxic died ED

**ISS 1; GSW head “open wound”
died ED**

**ISS 9: fall, + rib fx, liver lac/minor
+ age 89 + comorbidities
died floor 2 days later
care issues identified &
addressed**

PI # 5: Patients w/GCS ≤ 9 & not intubated

Patients NOT transferred YTD: 7

1st quarter: 2

#1 Trauma code, Stab wound to chest, GCS 3, exanguinated, NO ET

#2 Transfer; stab wound/abd, 2nd ED GCS 8, +BAC

to OR 42", ET in OR

2nd quarter; 2 patients;

#1 Trauma code, MVC multiple pts

BLS per EMS/family present- To ED, efforts DC'd on arrival, open skull fx, No ET

2nd quarter

#2 EMS GCS 13, ED GCS 9, facial injuries

+.074BAC, + cannabis, + benzos

In ED 3hr 52"; to OR for facial repair

Allowed to gradually awaken, ET OR

Dism to home after 6 hosp days, 2 in ICU

GCS 15

3rd quarter ;1 pt

16yr male MCC

EMS GCS = 14, ED GCS = 9

**+ETOH .009, concussion/brief coma,
scalp lac, CT neg**

**“condition improved” No further ED GCS
GCS 15 on arrival ICU**

Home next day w/GCS 15

■ 4th Quarter; 2 patients

#1 35 M MV vs Pedestrian:EMS GCS/UNK
ED GCS/8-9 +BAC .312

Brain Inj/CT neg; facial fx: to ICU w/gradual
increase LOC; D/C GCS 15

#2 15F MVC (passed out in back seat/ETOH
prior to MVC) EMS GCS/3, ED GCS/8
+BAC .216, CT head Neg. Monitored ED
for increase in LOC: to ICU w/GCS 12,
home next day w/GCS 15

PI #5: GCS < 9 & Not Intubated Transfers YTD 3

#1 52yr M, stabbed, initial GCS/UNK

42" 1st facility

2ndED GCS 8, +BAC .376

TO OR X 42": ETT, splenic repair +PRBCs

Dism to home after 4 hospital days, no ICU

Eastern Region

PI #5: GCS < 9 & Not Intubated Transfers YTD 3

#2 13yr F Off-Rd MCC

EMS GCS/13, ED GCS/9- rapidly awakened
in ED to GCS15, CT head neg:

Tranferred due to DI: resolved/Dism Home
2 Peds ICU days/ GCS 15

Western Region

PI #5: GCS < 9 & Not Intubated Transfers YTD 3

#3 38M assault

EMS GCS 9, ED GCS 8

CT head: SDH, SAH + BAC.278


NP inserted: readily awakened

Observed ED w/increasing LOC:

GCS14 by transfer

**2nd ED GCS/14: disp to Home after 2 hosp
days/I ICU day w/GCS 15**

Eastern Region



**Based on continuous review of
smaller facilities' Trauma
Registry abstracts and TR data
four collaborative PI activities
have been proposed between MT
Trauma Registry and MHREF PIN
for Community Access Hospitals**

EMS/Prehospital;

EMS trip reports are consistently available in the Medical Record for trauma patients transported by EMS with

- Complete response times**
- Initial Vital Signs SPO2, Pulse/HR, Respiratory rate & Blood Pressure**



Hospital ED/Documentation;

Complete initial Vital Signs (Temperature, SPO2, Pulse/HR, Respiratory Rate and Blood Pressure)

and

Glasgow Coma Scale parameters are consistently assessed/documentated in the ED Record



Hospital ED/Interventional;

Utilization of ED cardiac monitoring is consistently implemented for the trauma patient with decreased LOC, multisystem injury, chest trauma and/or potential for cardiovascular instability



Process Development;

**Development of Trauma Team roles with
written criteria for activation of the
Trauma Team is implemented**